

Utah Vital Statistics: Quarterly Report

Second Quarter 2003



November 14, 2003
Technical Report Number 224

Produced by the Statistics Products Section
Office of Vital Records and Statistics

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Mission Statement

The Office of Vital Records and Statistics administers the statewide system of Vital Records and Statistics by documenting and certifying the facts of births, deaths, and family formation for the legal purposes of the citizens of Utah, participates in the National Vital Statistics System, and responds to the needs of health programs, health care providers, businesses, researchers, educational institutions and the Utah public for data and statistical information.

Source of Data

Vital statistics birth and death certificates are required by law to be filed with the state Office of Vital Records and Statistics and are the primary source of data presented in this report. These birth and death data are provisional until published in the annual report, Utah's Vital Statistics: Births and Deaths (Year).

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2003 2nd Quarter Overview

Table 1. Births, deaths, infant deaths, stillbirths, and population by health district:
Utah, 2nd quarter 2003

Health district County	Population Number	Births		Deaths		Infant deaths		Stillbirths	
		2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number
Total	2,338,762	13,009	24,882	3,188	6,468	48	106	74	130
Bear River	141,322	842	1,629	172	367	2	5	1	6
Box Elder	43,812	214	397	69	145	0	0	0	1
Cache	95,460	614	1,214	102	219	2	5	1	5
Rich	2,050	14	18	1	3	0	0	0	0
Central Utah	67,673	319	592	148	287	0	1	1	3
Juab	8,643	44	95	19	30	0	0	1	1
Millard	12,335	60	105	34	59	0	0	0	0
Piute	1,409	7	11	7	10	0	0	0	0
Sanpete	23,550	105	197	43	89	0	0	0	2
Sevier	19,232	95	168	38	84	0	1	0	0
Wayne	2,504	8	16	7	15	0	0	0	0
Davis	250,265	1,427	2,703	269	604	4	9	10	15
Salt Lake	927,564	4,777	9,096	1,295	2,589	17	37	24	49
Southeastern	53,082	186	370	129	231	0	3	1	2
Carbon	19,858	82	153	78	126	0	1	0	1
Emery	10,540	46	88	16	35	0	0	0	0
Grand	8,468	20	44	17	31	0	0	0	0
San Juan	14,216	38	85	18	39	0	2	1	1
Southwest	152,960	843	1,595	247	507	6	10	2	5
Beaver	6,285	33	67	16	27	1	1	0	0
Garfield	4,599	21	38	11	20	1	2	0	0
Iron	35,507	235	404	42	100	2	3	1	1
Kane	5,958	20	36	12	17	0	0	0	0
Washington	100,611	534	1,050	166	343	2	4	1	4
Summit	32,236	144	279	24	53	1	1	3	3
Tooele	46,208	280	548	47	109	1	3	2	2
Tri-County	41,756	210	410	60	153	0	1	0	1
Daggett	916	3	9	2	3	0	0	0	0
Duchesne	14,856	73	158	20	61	0	0	0	0
Uintah	25,984	134	243	38	89	0	1	0	1
Utah County	398,056	2,848	5,438	446	878	10	21	20	31
Wasatch	16,847	96	184	20	34	1	1	0	0
Weber-Morgan	210,793	1,037	2,038	331	656	6	14	10	13
Morgan	7,416	25	57	4	19	0	0	0	0
Weber	203,377	1,012	1,981	327	637	6	14	10	13

2003 2nd Quarter Overview

Table 2. Births, c-sections, gestation under 37 weeks, mothers under 20 years of age, and low birthweight by county of residence: Utah, 2nd quarter 2003

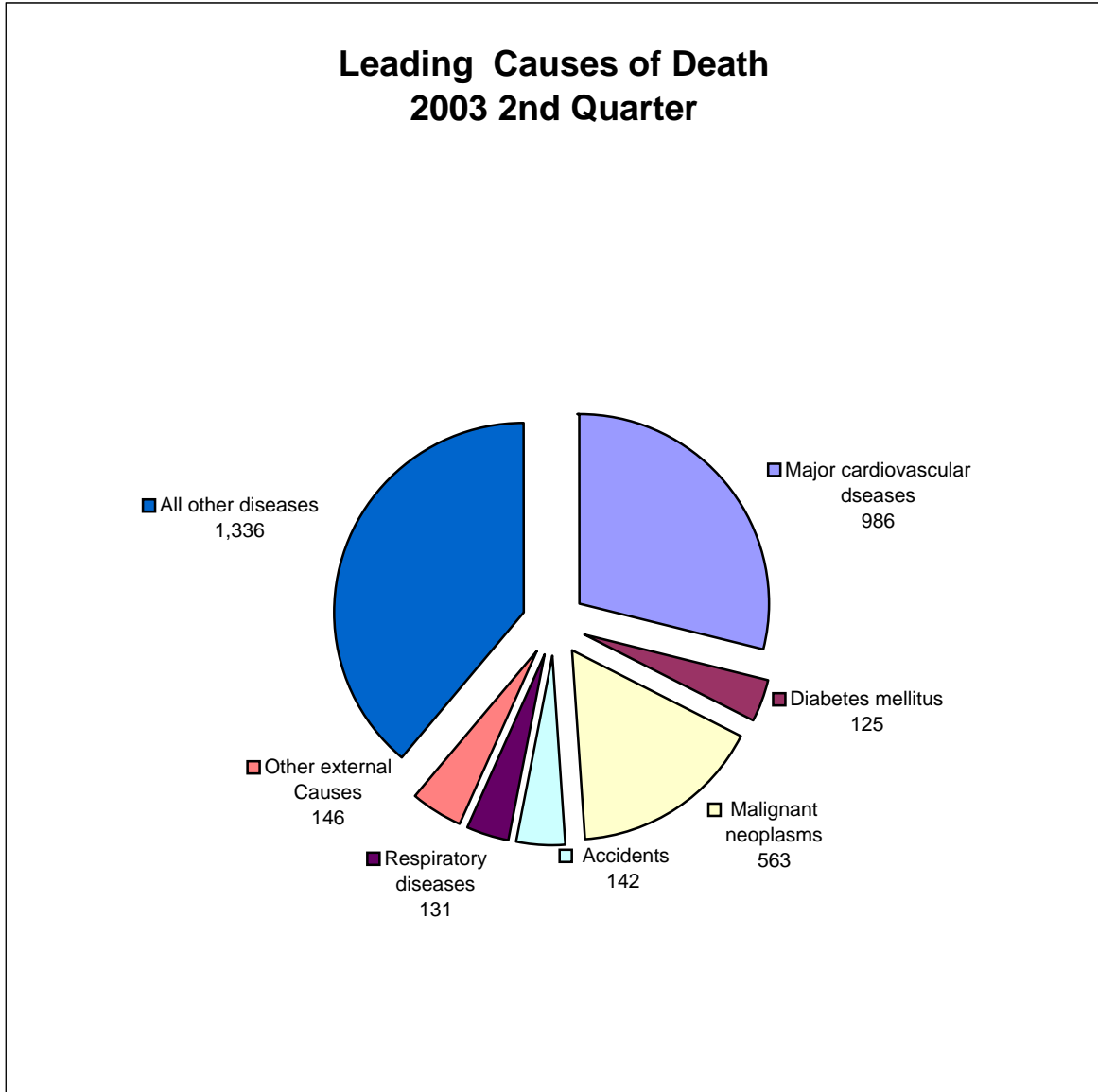
Health district County	Births		C-sections		Gestation under 37 weeks		Mothers under 20 years of age		Low birth weight	
	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number
Total	13,009	24,882	2,536	4,812	1,194	2,269	801	1,602	823	1,566
Bear River	842	1,629	138	263	85	145	46	104	54	98
Box Elder	214	397	36	66	24	27	15	33	17	23
Cache	614	1,214	99	194	58	115	31	71	34	71
Rich	14	18	3	3	3	3	0	0	3	4
Central Utah	319	592	77	139	28	59	32	59	21	44
Juab	44	95	8	14	4	10	2	6	3	11
Millard	60	105	16	33	2	7	5	9	2	7
Piute	7	11	3	4	0	0	0	0	0	0
Sanpete	105	197	28	46	16	29	0	1	8	12
Sevier	95	168	22	39	6	11	12	23	7	12
Wayne	8	16	0	3	0	2	13	20	1	2
Davis	1,427	2,703	266	517	134	256	63	140	87	168
Salt Lake	4,777	9,096	982	1,851	435	831	331	645	327	604
Southeastern	186	370	50	91	15	34	22	42	11	27
Carbon	82	153	27	41	7	15	18	25	8	14
Emery	46	88	13	23	7	13	2	7	2	7
Grand	20	44	2	6	0	1	0	2	0	1
San Juan	38	85	8	21	1	5	2	8	1	5
Southwest	843	1,595	135	238	76	149	62	123	47	84
Beaver	33	67	5	15	4	8	4	7	1	4
Garfield	21	38	7	8	3	5	2	2	3	5
Iron	235	404	41	63	20	37	19	34	14	26
Kane	20	36	3	5	2	3	1	5	0	0
Washington	534	1,050	79	147	47	96	36	75	29	49
Summit	144	279	33	60	12	26	10	21	15	30
Tooele	280	548	64	122	44	72	14	33	32	54
Tri-County	210	410	36	76	21	36	27	59	12	24
Daggett	3	9	0	2	10	17	0	0	0	0
Duchesne	73	158	15	34	0	0	9	20	8	14
Uintah	134	243	21	40	11	19	18	39	4	10
Utah County	2,848	5,438	493	938	225	431	106	200	137	271
Wasatch	96	184	26	42	12	15	9	14	7	10
Weber-Morgan	1,037	2,038	236	475	107	215	79	162	73	152
Morgan	25	57	6	14	1	9	0	1	1	4
Weber	1,012	1,981	230	461	106	206	79	161	72	148

2003 2nd Quarter Overview

Table 3. Deaths due to unnatural causes by county of residence: Utah, first quarter 2003

Health district County	Deaths		Total		Motor vehicle		Other accidents		Homocide		Suicide		Undetermined	
	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number	2nd Qtr Number	YTD Number
Total	3,188	6,468	288	583	62	108	80	178	16	28	83	170	47	99
Bear River	172	367	14	32	4	9	7	13	0	0	2	8	1	2
Box Elder	69	145	7	18	2	4	4	7	0	0	1	6	0	1
Cache	102	219	7	14	2	5	3	6	0	0	1	2	1	1
Rich	1	3	0	0	0	0	0	0	0	0	0	0	0	0
Central Utah	148	287	17	34	1	4	6	13	0	0	10	17	0	0
Juab	19	30	0	1	0	0	0	1	0	0	0	0	0	0
Millard	34	59	5	9	0	1	1	3	0	0	4	5	0	0
Piute	7	10	0	0	0	0	0	0	0	0	0	0	0	0
Sanpete	43	89	6	13	0	2	4	7	0	0	2	4	0	0
Sevier	38	84	4	9	1	1	0	1	0	0	3	7	0	0
Wayne	7	15	2	2	0	0	1	1	0	0	1	1	0	0
Davis	269	604	20	43	3	8	7	14	2	3	5	10	3	8
Salt Lake	1,295	2,589	115	238	25	37	30	68	7	15	29	71	24	47
Southeastern	129	231	11	21	4	5	2	5	0	0	3	7	2	4
Carbon	78	126	5	9	1	1	1	1	0	0	1	4	2	3
Emery	16	35	3	6	1	2	1	1	0	0	1	2	0	1
Grand	17	31	2	3	1	1	0	1	0	0	1	1	0	0
San Juan	18	39	1	3	1	1	0	2	0	0	0	0	0	0
Southwest	247	507	15	33	3	4	4	11	0	1	6	9	2	8
Beaver	16	27	2	3	2	2	0	0	0	0	0	0	0	1
Garfield	11	20	1	2	0	0	1	1	0	1	0	0	0	0
Iron	42	100	3	5	0	0	1	2	0	0	1	1	1	2
Kane	12	17	2	3	0	0	0	0	0	0	1	1	1	2
Washington	166	343	7	20	1	2	2	8	0	0	4	7	0	3
Summit	24	53	4	8	1	2	0	1	1	1	1	2	1	2
Tooele	47	109	6	9	2	3	0	1	1	1	1	2	2	2
Tri-County	60	153	6	17	2	4	1	5	1	1	2	3	0	4
Daggett	2	3	0	0	0	0	0	0	0	0	0	0	0	0
Duchesne	20	61	1	6	1	2	0	2	0	0	0	1	0	1
Uintah	38	89	5	11	1	2	1	3	1	1	2	2	0	3
Utah	446	878	53	93	12	22	19	31	3	4	12	23	7	13
Wasatch	20	34	1	3	0	0	1	3	0	0	0	0	0	0
Weber-Morgan	331	656	26	52	5	10	3	13	1	2	12	18	5	9
Morgan	4	19	1	4	0	1	0	2	0	0	1	1	0	0
Weber	327	637	25	48	5	9	3	11	1	2	11	17	5	9

Figure 1



Utah Vital Statistics: A Historical Review

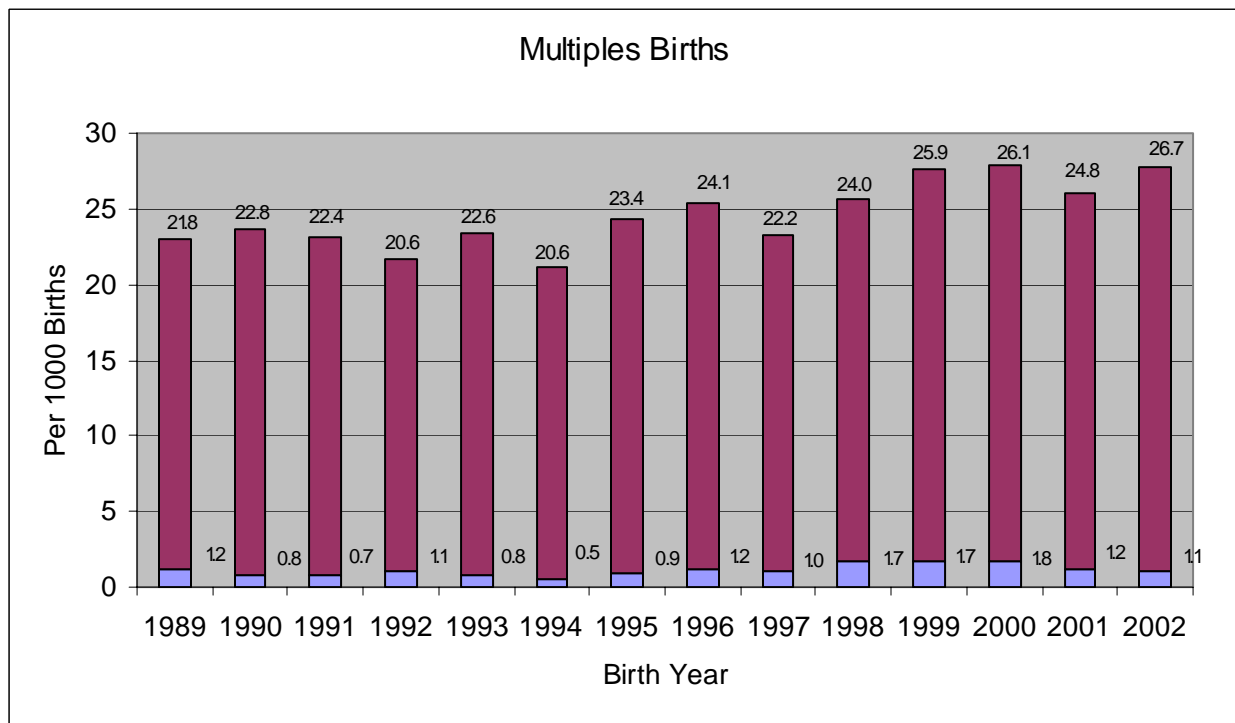
Utah Vital Statistics: A Historical Review presents an overview of selected public health trends in Utah using data derived from Utah birth and death certificates. These data may be available for approved research projects. For more information or to request data, please contact the Utah Office of Vital Records and Statistics.

Utah Multiple Births 1989-2002

Multiple births (twins, triplets, e.g.) have an impact on health care resources. Compared to single births, multiples have a higher percent of cesarean deliveries. They often have shorter gestation periods resulting in lower birth weight as well as increased fetal and infant deaths. Infants from multiple births are also at a greater risk for severe life-long disabilities. The number of multiple births in Utah has been steadily rising (20.1%) since 1989.

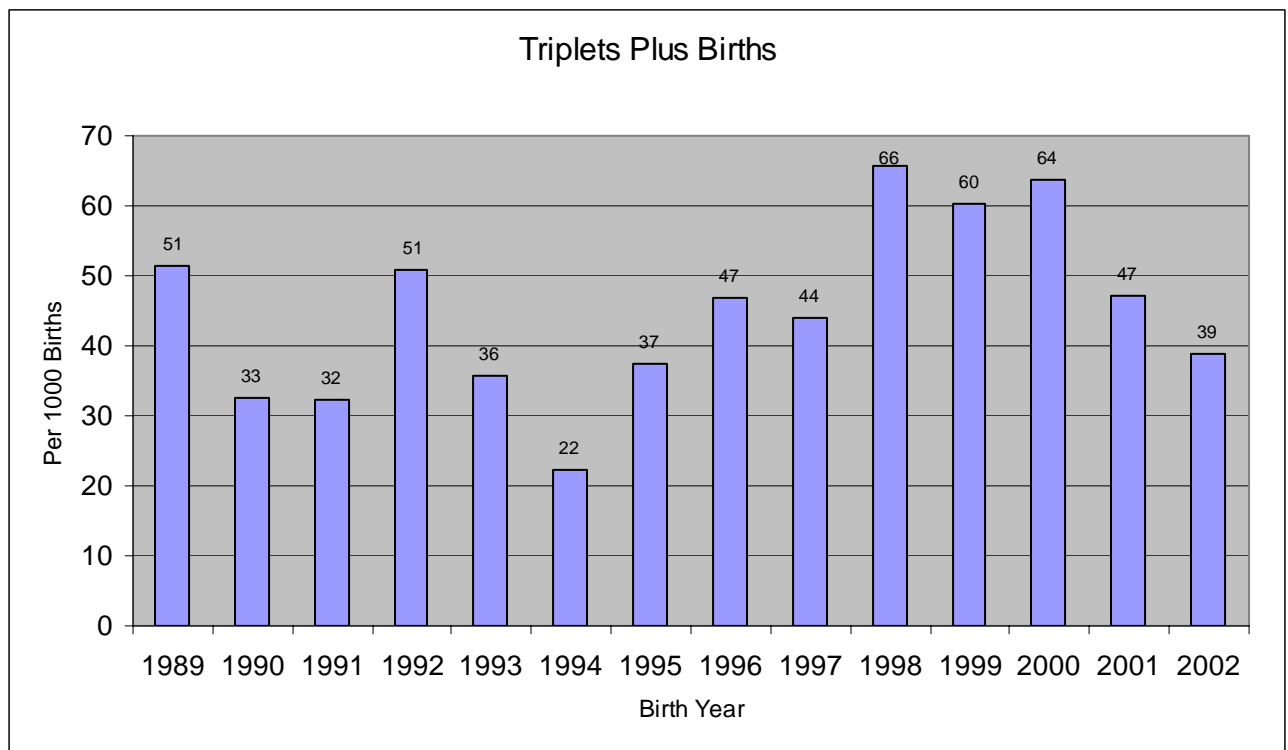
From 1989 to 2002, there have been 13,714 twins born, 614 triplets born and 52 quadruplets born. These counts represent individual live births that occur from multiple deliveries and do not reflect any multiples that may have been a fetal demise.

Figure 1



The most dramatic increases in multiple births have been among higher order births. Increased use of fertility management, including assisted reproductive technology (ART), may largely account for the increases in higher order births. Nationally, triplets and other higher order multiple births declined from 1998 to 1999 after more than doubling between 1990 and 1998. As seen in Figure 2, the rate of triplets plus births in Utah does not begin to decline until 2001 after almost doubling between 1990 and 2000.

Figure 2



Delivery Type

The majority of babies born in Utah are delivered vaginally. Utah's single births follow this trend with 84 % of all births delivering vaginally and only 16 % delivering by c-section. However, only 44 % of multiple births are delivered vaginally whereas 56 % deliver by c-section. C-sections require longer hospital stays for both the mother and baby proving to be stressful to families and increasing the cost of delivery.

Figure 3

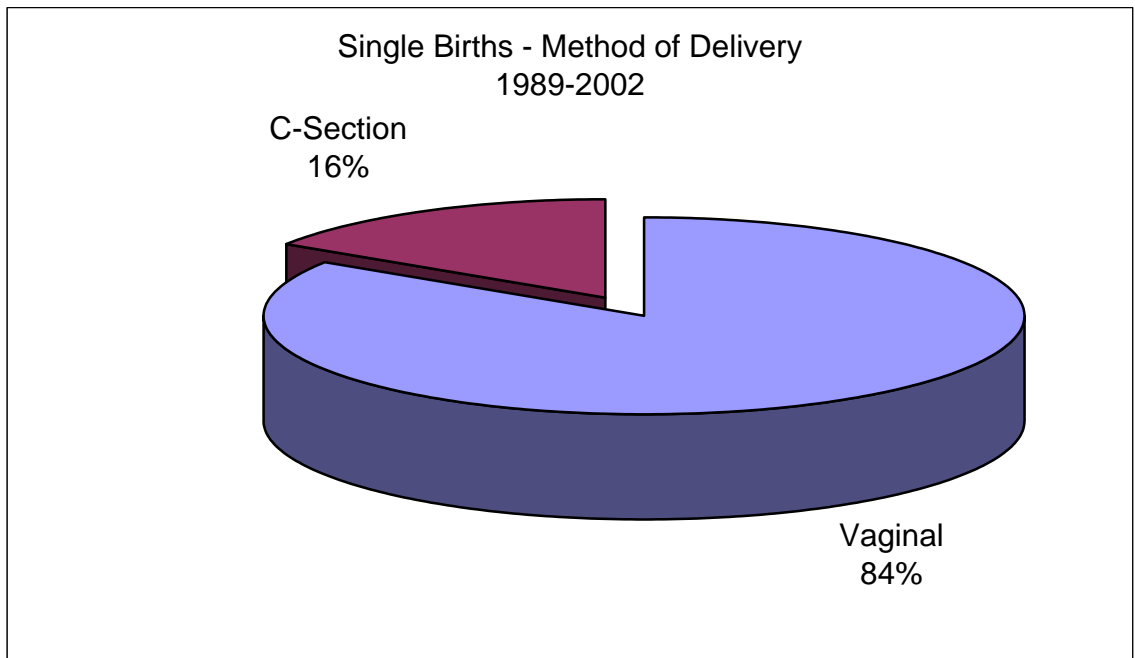
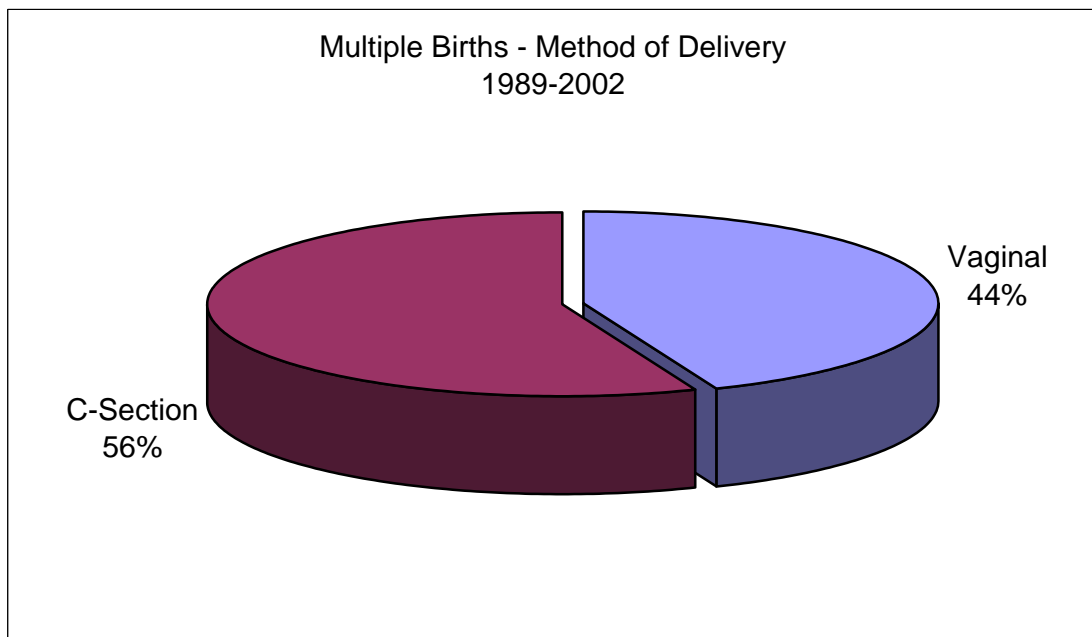


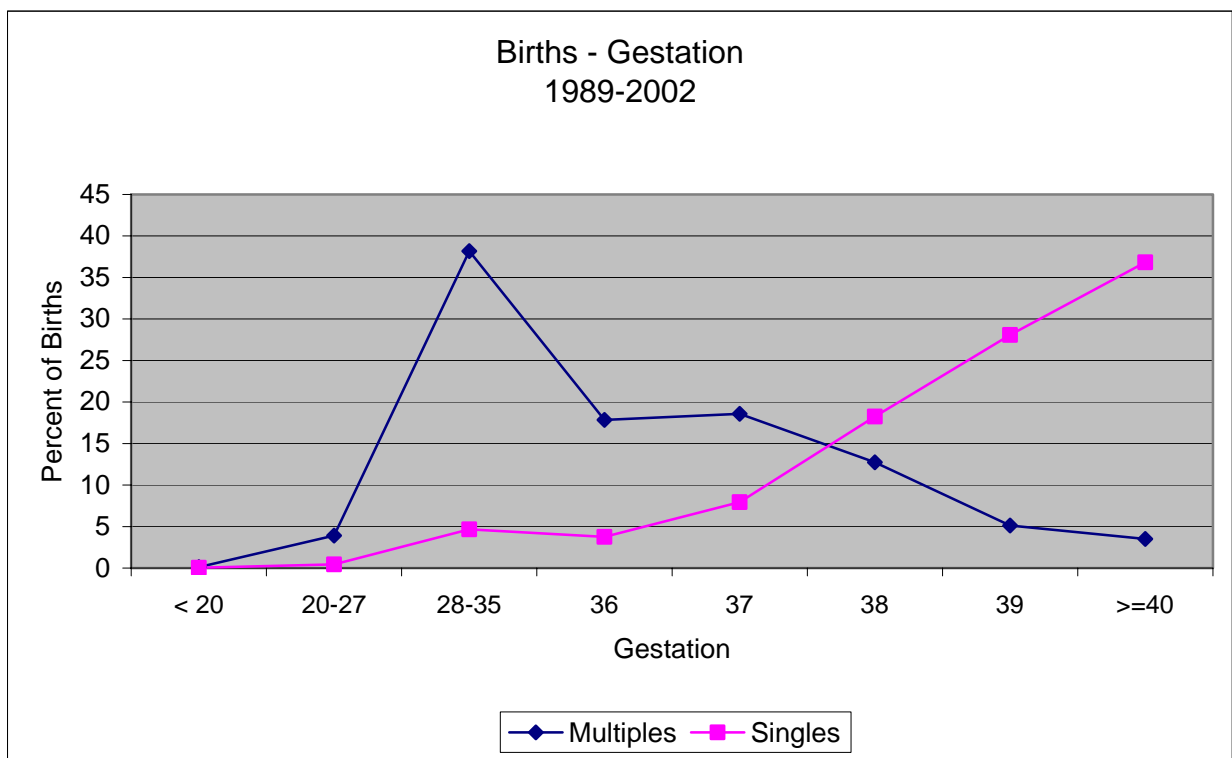
Figure 4



Gestation

Births prior to 37 weeks' gestation are considered to be premature. Over half (60%) of all multiple births in Utah are born premature compared to only 9% of single births. As seen in Figure 5, the majority of multiple births are born between 28 and 35 weeks' gestation whereas single births gestation peaks at 40 weeks. Premature babies generally require longer hospital stays and often spend some time in the Neonatal Intensive Care Unit (NICU) resulting in much higher medical cost than babies who are full term.

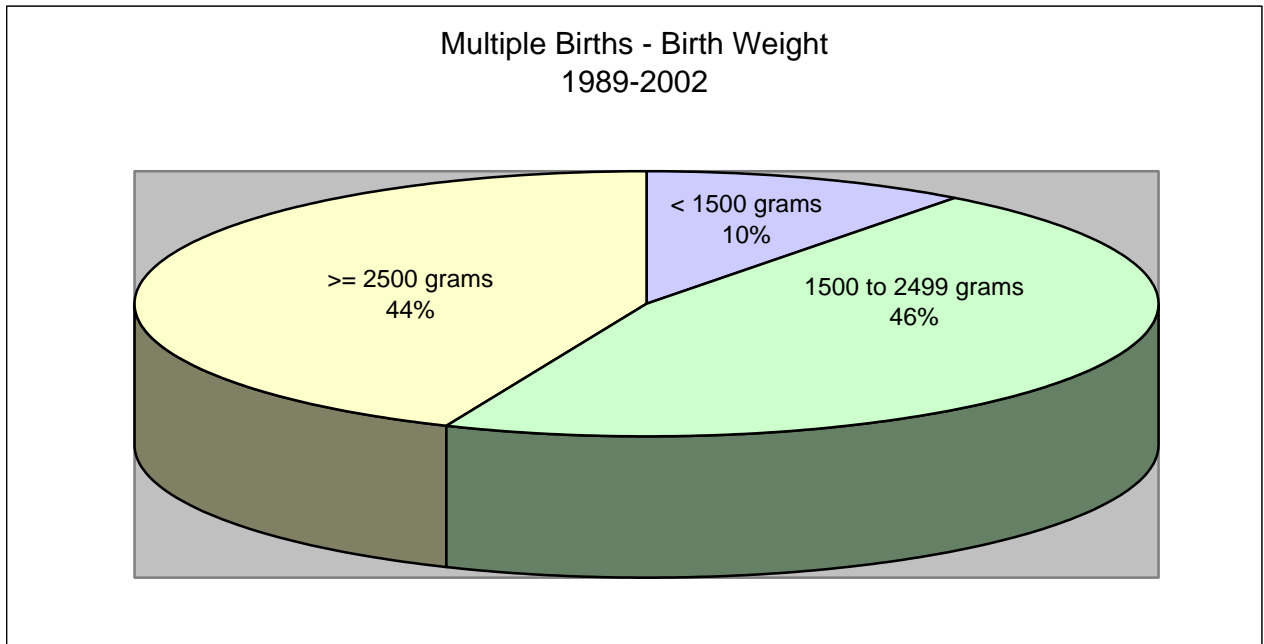
Figure 5



Birth Weight

More than half of all twins and over 95% of triplets plus are born prematurely and/or have low birth weight in Utah. Premature births generally result in lower birth weight. Multiple births babies represented 2.5% of all births from 1989 to 2002 but accounted for 21.8% of the low birth weight infant population. Figure 5 illustrates the large number of multiples that are born premature and as would be expected, Figure 6 shows an equally large number of low birth weight births. The more babies born in a pregnancy, the lower the birth weight of each infant and the higher the admittance to NICU.

Figure 6



Location

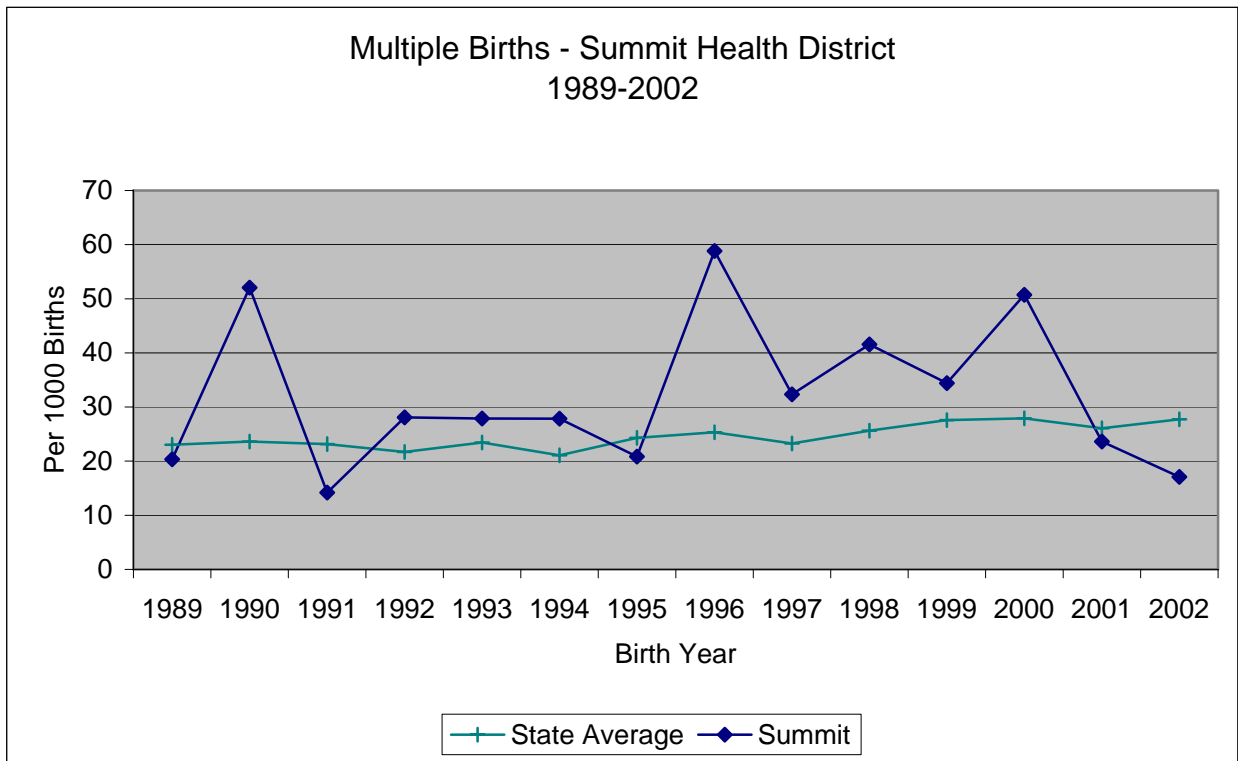
From 1989 to 2002, there was a statewide increase in multiple births. During this time period, Summit Health District had the largest rate of multiple births, 32.5 per 1000 births compared to the state average of 24.2 per 1000 births.

Table 1

Multiple Births – Health District

Health District	Rate per 1000 Births
Bear River	21.8
Central Utah	24.1
Davis	27.3
Salt Lake	25.2
Southeastern	20.9
Southwest	23.3
Summit	32.5
Tooele	25.3
Tri-County	19.3
Utah County	24.4
Wasatch	20.3
Weber-Morgan	25.4

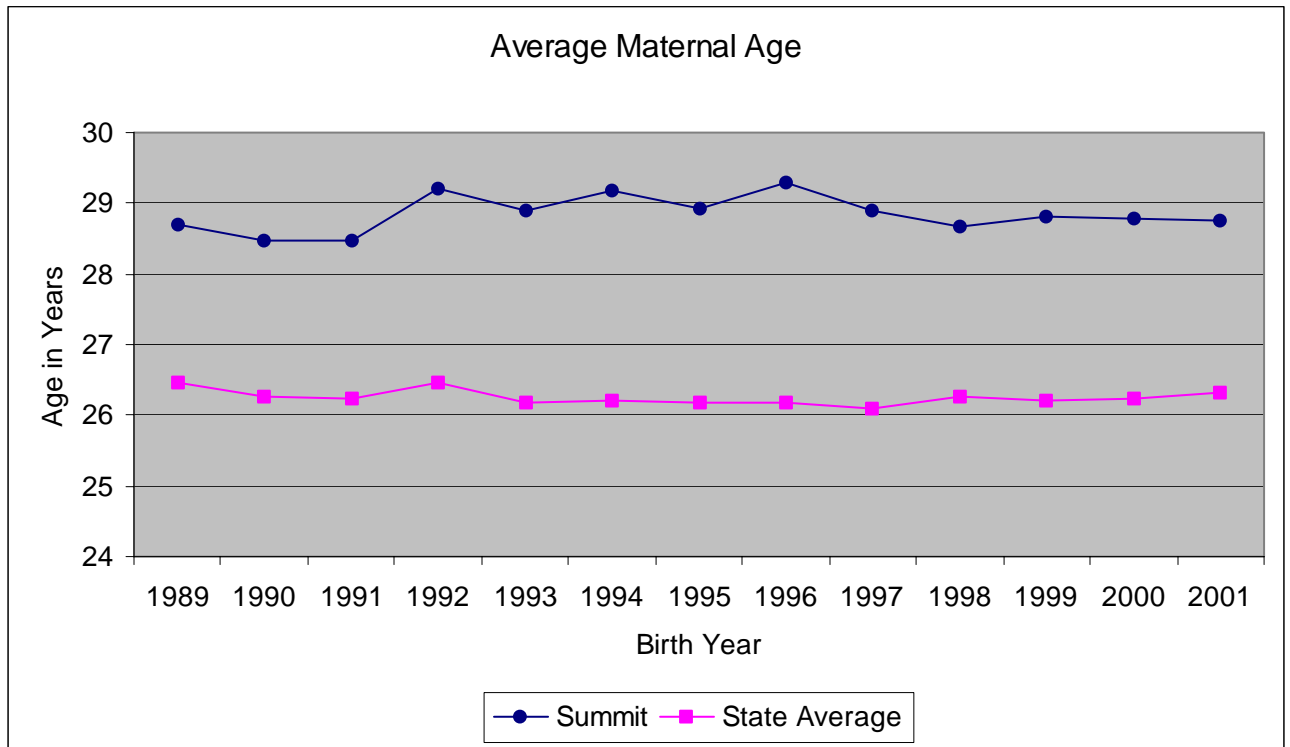
Figure 7



Maternal Age

Women of advanced childbearing age have a higher occurrence of spontaneous multiple births than younger women. However, according to *Obstetrics & Gynecology*, the number of plural births to older women has exceeded the estimated natural occurrences (1). As Shown in Figure 8, the average maternal age in Summit Health District is 2.6 years above the average maternal age for the entire state (28.9 compared to 26.3). There was a 67% increase in multiple births among women of all ages but the greatest change was to women aged 40-44 years, 191%. The percent increase declines as age decreases. Multiple births to women aged 35-39 years increased 124% and followed by an increase of 71% for women aged 30-34 years. Fortunately, according to the National Institute of Child Health and Human Development, multiples born to older moms do not appear to have a greater risk of birth complications than those born to younger moms.

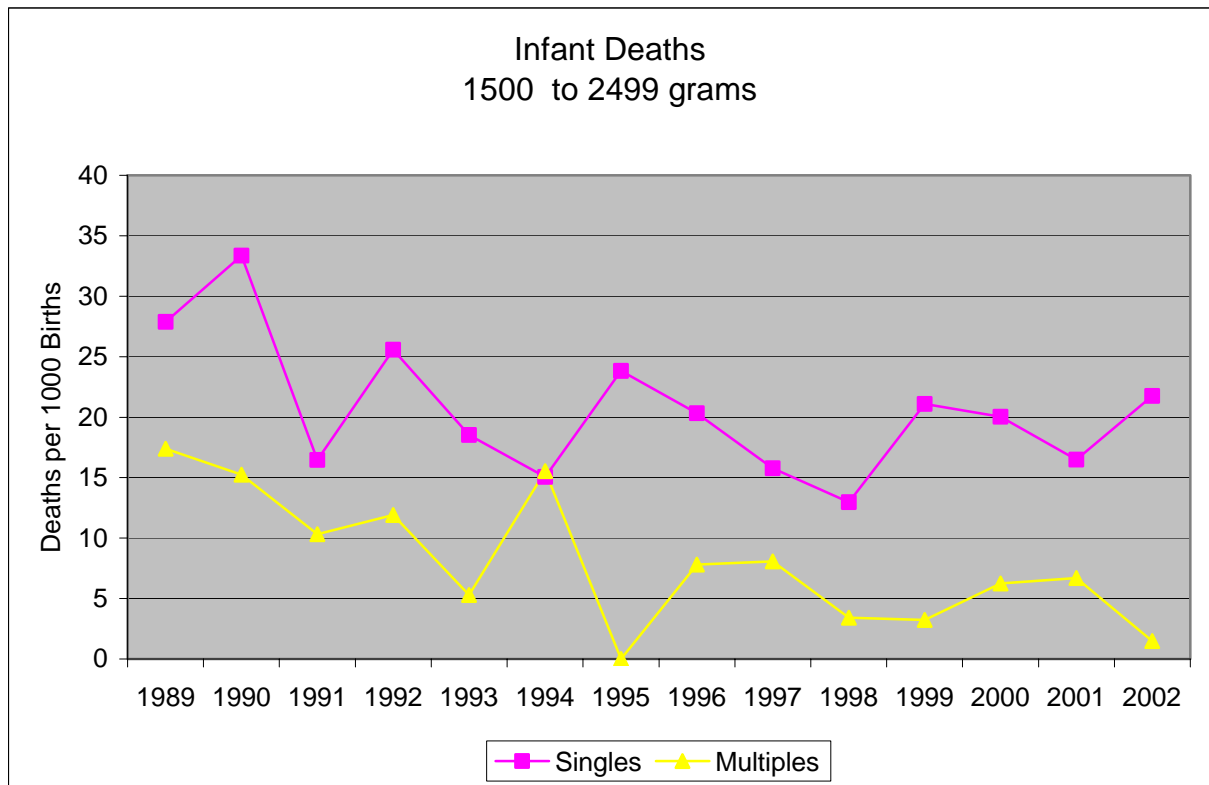
Figure 8



Deaths

Multiple deaths as a percent of multiple births has been on a downward trend over the past 14 years. Although the overall mortality rates for multiple birth infants are much higher than those of singleton births, this is not the case when the mortality rates are dichotomized into birth weight categories. Multiple infants with weights between 1500 and 2500 grams actually have a significantly lower mortality rate than singleton births in the same weight category as seen in Figure 9.

Figure 9



Summary:

The increase in multiple and higher-order births has a significant impact in birth outcomes. The complications associated with the increased risk of premature and/or low birth weight deliveries can be extremely serious. Regardless of management, at least half of all twins and 95% of higher order births are low birth weight and premature putting them at risk for higher infant mortality rates and other serious complications. Multiple birth children are at a five times greater risk of birth defects and/or disabilities which leads to expensive additional educational support (2).

(1) Rebecca B. Russel, Joann R. Petrini, Karla Damus, et.al. The Changing Epidemiology of Multiple Births in the United States. *Obstetrics & Gynecology* 101(1): 129-135. January 2003.

(2) Multiple Births Canada/Naissances. General Facts & Figures: Health Services Costs. www.multiplebirthscanada.org (11/13/2003), 1996-2002.